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Personal Background and Introduction

I started working in fire control in 1957 for what was then called the California Division of Forestry (now CalFire). I finished college and started working as an industrial Forester in 1965. I Joined a well-known west coast forestry consulting firm in 1973 - Mason Bruce & Girard Inc. Consulting Foresters - and worked there as a principal until 2003. In 1979 I began a personal and business focus on studying the harvest, forest benefits and use of biomass as a fuel to produce power. In the mid 1980's MB&G negotiated what was then and may remain today the largest acreage contract for thinning industrial forestlands. Over the next ten years operators on that contract treated many thousand acres of private forest benefitting the forest, the harvesters and the power plant operators. Through 2003, I continued working at MB&G on various studies and consulting assignments about a third of which involved use of biomass as a fuel to produce steam and electric power. With partner Brad Seaberg I formed Continental Resource Solutions in 2003 with an eye to taking an ownership position in energy projects rather than remaining in the singular business of consulting. Mr. Seaberg and I acquired an interest in and restarted a small biomass to energy project in 2004 and so far in the process of collecting fuel for that plant, have treated over 10,000 acres of forest to make it more productive and more resistant to catastrophic fire.

The forestland we have treated fits in the general description of too dense and fire prone. In the process of thinning and harvesting small tress from overstocked forestland we have limited (greatly reduced) the exposure to fire control costs on those acres and put them in a condition to allow managers to reintroduce fire as a tool with much lower risk. By several estimates the thinning work accomplished for the one small power plant may have saved as much as a thousand dollars per acre or $10 Million in fire control and related costs. Estimates of savings have been developed by Mason and others at the University of

Washington and reported in the Journal of Forestry, January/February 2006, where, dependent on risk, they show a range of net savings from over $600 to over $1,400 per acre associated with treating fuels before fires. Other studies show similar results. More recently, following the catastrophic Northern California fires in 2008, Brad Rust, USFS Soil Scientist for the Shasta-Trinity National Forest is quoted as having estimated the cost for soil stabilization alone at between $1,500 and $2,000 per acre. None of the foregoing includes personal health, community economic loss, soil loss, water loss or lost opportunity from uncontrolled carbon dioxide release. These fires cost an estimated $1,000 per acre on average to extinguish and if that is the case the resultant expenditure for the Shasta-Trinity National Forest last year would have been about one-third Billion dollars (estimate mine). Regardless of the actual number, no one disputes the cost is very large, and if we can prevent catastrophic fires we will not be forced to spend many hundreds of millions of dollars on fire suppression each year. We believe one of the opportunities available is to thin premerchantable and non-merchantable stems from overstocked stands thereby reducing fire risk substantially. While reducing risk there is an opportunity to use those stems for producing products in the manner REP proposes and to produce fuel to generate steam and ultimately electric power.

Renewable Energy Providers Inc.

Our company was formed in 2006 to produce and sell biomass generated electrical power through burning materials the use of which will contribute positively to the air quality and carbon dioxide footprint. We will continue focus on using stems of trees for fuel, but as part of the process some of those stems will be turned into lumber products and some into round wood products (stakes, posts etc.), which are sold to offset part of the cost of harvest and delivery.

In 2006 with four other professionals with complimentary business backgrounds and education, Kevin Leary (electrical engineer), Brian Morrison (investment banking), Scott Foster (industrial engineer) and Timothy O'Hare (attorney), Brad Seaberg and I formed Renewable Energy Providers Inc. (REP) for the express purpose of taking advantage of what we believed was an historic opportunity to focus effort of reducing fire hazard and hopefully

make a profit in the process by generating electricity and producing marketable wood products from material not formerly used on any large scale basis in California. In 2008 REP purchased a shuttered biomass to energy power plant and are now in process of restarting it. We have enjoyed what we describe as enthusiastic support of the USFS in part because Brad and I are foresters and understand the needs of the forest and in part because we are taking the approach of working within the confines of the political and management situation we find ourselves.

The REP plan for biomass power production entails a unique method of accomplishing and accounting for fuel sourcing to biomass power plants by manufacturing enough salable products to offset some of the cost to harvest and deliver fuel. In our first project, because of the need in the surrounding forests, we envisioned a sawmill focused on only the available logs. The sawmill will provide some of the fuel for the power plant as a byproduct to offset cost – the business model calls for producing electric energy as the primary business while not allowing sawn wood products to be the predominant focus. The wood products are treated as the by-product not the other way around as has been the history of the industry. This sawmill is a work in progress not fully realized although the power plant has been running and we have treated over 10,000 acres of surrounding forest land to date. The sawmill is focused on processing about nine Million Board Feet annually (which is the available supply in the geographic area). The new sawmill is in the same location of a now defunct mill that had cut about 60 Million Board Feet annually. The new mill was designed to focus on the available resource – small stems from trees smaller than usually merchantable and a few larger logs from salvage operations.

The second power plant operation we have been involved with as owners (the first for REP) is purchased and well into refurbishment. In our second project the focus is on economic utilization of even smaller tree stems where we will extract value from manufacture of small diameter round wood products – stakes, posts etc. We have a site secured and a market for the wood products as well as the electricity. We have lined up the timber resource and are now waiting on funding for the power plant to materialize.

The Current Situation

Western forests are generally too dense with too many small trees, making them susceptible to stand-replacing fires, disease and insect attack. We find general agreement on that statement across the political landscape and have designed our approach to business to address the generally perceived need for fire risk reduction while avoiding to some extent the contentious issue of harvesting larger diameter trees. Our approach does not address forest management in the same way it was accomplished in 1965 but we believe it addresses the reality of today's politics and accomplishes great good in the process.

Biomass harvested to produce power has several significant benefits. There is an offset to the use of fossil fuels and a corresponding reduction in released carbon. Small diameter trees converted into economic products other than sawlogs have the double benefit of providing an economic return for very small trees and subsidize the cost of producing fuel, which is often an impediment to thinning. Reduction of risk of catastrophic fire is perceived as a general good and has the benefit of reducing health risks. People (including some firefighters) died in western communities last year and two hospitals were evacuated in our northern California area. Maybe one of the most important benefits coming along with biomass harvesting and thinning is that it allows for reintroduction of low intensity fire as a silvicultural into western forests in a safe and controllable manner. The evidence is clear that just allowing it to burn does not bring desired results.

Aside from the above items that are part of a healthier forest environment, biomass harvesting and power production bring economic benefits to the communities where they center. Each REP or similar operation employs about 50 people in good paying jobs usually in rural communities. These are vital jobs in communities that were hardest hit by the current lumber market industry decline and more importantly the jobs created are less impacted by the home building economy and therefore less cyclical. Each such operation has a positive

impact on infrastructure in the form of upgrades to roads and tax base. One of the least talked about by-products of biomass thinning and harvesting are the "high tech" nature of the jobs. Plant operation is no longer an assignment in monitoring a machine and reacting after the fact. Today's power plant operations are monitored and controlled from someone on the plant site using a computer system that provides instantaneous up to date information on conditions that will allow making small corrections as needed rather than reacting to difficult to cure problems before safety issues arise. In the woods, mechanical harvesting techniques allow for low soil impact and at the same time provide interesting and challenging jobs. Think about running a thirty-ton "Starwars" type machine with a joystick from an air-conditioned cab. The machine has the capacity to sever trees at the stump then add each stem to a bundle of tree stems ultimately weighing about three tons or more before it is gently placed on the ground.

Impact of Biomass Harvesting on Current Methods of Fire Control

Some of us believe strongly that the current methods of fire control focusing solely on safety rather than rapid fire control are wrong. THAT SAID, most will agree that huge complex fires in western forests burn too long, consume valuable resources on both public and private lands, threaten homes and create unsafe air quality conditions. Biomass harvesting effects a modification of the landscape that reduces fuel loads and risk of fire spread (ladder fuels) to the point that the use of current fire suppression techniques (indirect and burnout) will be more effective than on an untreated landscape.

What can your Committee Do?

- I ask that you look at the economics of fire control versus risk reductions from biomass harvests. You will find credible studies that show per acre costs of about $1,000 average for fire control. In the same studies you will find the costs of treatment including all charges average only about $300 per acre. We believe the REP plan will have a net cost even less – or we would not be doing it.

- Allow for an income tax credit of $15 per as developed ton of fuel harvested from woods operations. You will find the accounting mechanism is already in place in western states to make this aspect very easy to monitor and verify. Specifically, in California, the State Board of Equalization already requires the reporting.
- Make it easier to harvest biomass by assisting the Forest Service in reducing the time from years to months for planning and implementation of stewardship agreements (These agreements are one of the best tools recently developed.) Encourage the USFS to work even more closely with industry to think "outside the box" in developing stewardship agreements that benefit local communities as well as the Agency forest management objectives.
- We have found the USFS personnel very willing to accept new ideas but are stymied by NEPA timing requirements. You may have noticed that it takes a long time for NEPA studies and while they are ongoing so are fires. (I am not suggesting you avoid or void NEPA, just fund the NEPA studies in a forward manner. It will still be a lot less costly than the fires and the health risks we face today)